Exhibit M

Annual Water Demand Calculation

W.O. 23093
8/5/2025

ANNUAL WATER DEMAND CALCULATION

PROJECT: 1 Hot Springs RD, PLN 2024-00217, APN 017-393-002

PREPARED FOR: City of Santa Barbara

PREPARED BY: Robert Schmidt, PE - Flowers & Associates, Inc.

REFERENCES

1. Architectural Plans prepared by Design Arc
2. City of Santa Barbara, 2021 Water Demand Factors Technical Memorandum

CALCULATION

Demand Factor(1): 0.15 AFY/dwelling unit

Proposed 22 Unit Multifamily Townhome units

Annual Water Demand = 22 Units * 0.15 AFY/room

Total, Annual Water Demand (2) = 3.3 AFY

Notes:
(1) Per Reference 2, Table 1 for “Multi-Family Residential”
(2) Per Reference 2, demand factors include both interior and exterior water use. Therefore, the annual water demand includes interior and exterior water use for the project.

REFERENCES

Water Vision
SANTA BARBARA

Technical Memorandum

DATE:	11/5/2021
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PROJECT:	Water Vision Santa Barbara
SUBJECT:	**UPDATED DEMAND FACTORS**

1. Purpose

The purpose of this Technical Memorandum (TM) is to update land use demand factors for the City of Santa Barbara's (City) General Plan.

2. Updated Water Demand Factors for the General Plan

The City developed the *Water Demand Factor Update Report* in October 2009 (2009 Factor Study) (City of Santa Barbara, October 2009), which updated the *Water Demand Factor and Conservation Study* completed in 1989. Demand factors for various land use categories are used in estimating water demand of proposed development. The City needs updated factors to support accurate demand estimates for proposed developments in conjunction with implementation of the City's General Plan.

Consistent with the 2020 Water Conservation Strategic Plan (Conservation Plan) (Maddaus Water Management, December 2020), baseline water use was determined using the average of 2018–2019 post-drought monthly water use and an average of 10.9% for non-revenue water (NRW). NRW is comprised of real losses (water physically lost from the system through leaks, breaks, theft, and other means) as well as apparent losses (water lost through meter under registration and data handling errors).

2.1. Methodology

The general methodology for calculating the demand factors involved joining land use data, generated by the City's Community Development Department, with consumption data from the City's utility billing system. The link between the two databases is the Assessor Parcel Number (APN). The land use database contains residential dwelling units (DU), accessory dwelling units (ADU), square footage (sf) of buildings, and lot size values used in calculations. Water use through dedicated irrigation meters has been included to the extent the correct APN was identified. Therefore, all demand factors include both indoor and outdoor water use.

Two primary data sources were used in the analysis:

- Water Use: "City Consumption Data" reports from the City of Santa Barbara CIS Utility Billing System provided for 2018-2019 consumption data.
- Land Use: Land use data came from the Land Use Database provided by the Community Development Department via email on April 7, 2020 in a file named "Landuse_City_Only_Dec2019working.lpk". This is a geodatabase that assigns a specific land use category to each parcel within the City limits (e.g., single

family or multiple-family residential, service commercial, retail, office, institutional, etc.). This database was developed on a parcel-by- parcel basis and verified by field observation.

To link the land use data with water use, the Land Use Database data generated in GIS were joined with the "City Consumption Data" report data including APNs for each account. The join was designed to find matching APNs from both lists and exclude APNs that were not common to both lists. Therefore, APNs missing from either the billing system or land use database were excluded from these analyses to focus on parcels known to fit the desired category. Furthermore, sufficient parcel data was not available for customers outside of City limits, so water use accounts outside the City were excluded as well. Additional data analysis considerations include:

- Dwelling unit and building square footage data was included in the Land Use Database. Therefore, the joined list of water use and parcels within a certain land use category were merged.
- Duplicate dwelling units and square footages were analyzed for each APN and filtered out as to not sum duplicate units within a given APN, which would skew the demand factors.
- Irrigation accounts were included within the land use category of the APN they were associated with.
- Hotel room data was not provided, so demand factors could not be updated.
- The data set for Institutional customers largely did not include parcel square footage data, so the demand factor for the Institutional category could not be updated.

The following data quality considerations should be noted:

- The usage, dwelling units per APN, and square footage data used to develop demand factors in the 2009 Factor Study and previous reports were not available for comparison to the 2018-19 demand factors.
- Data extremes, likely representing extraordinary water use due to leaks, fire, or water wasting, have not been identified or removed. It is appropriate to include this type of usage, as it contributes to overall demand.
- There are times when meter reading is delayed, and one month's reading actually reflects usage values over two months or more. However, this occurrence is not very frequent and does not affect overall annual averages.
- Regarding the Land Use Database, if the land use had changed or the size increased or reduced since the last update, it could also introduce minor inaccuracies.

2.2. Updated Water Demand Factors

The demand factors presented in **Table 1** are intended as indicators of typical water use by various land use categories. Residential water use is generally divided between single family and multi-family residential users. Non-residential water use categories are Retail, Office, Hotel, Institutional, Service Commercial, and Industrial. The non-residential user groups can be considered general headings for the following more specific land uses:

- Service Commercial: Restaurants, bars, auto service stations, banks, theatres, grocery stores, laundromats, and health services
- Institutional: Educational services, hospitals, government buildings and agencies, public safety, and religious institutions
- Retail: Shopping malls, and consumer goods
- Office: General office space
- Hotels: hotels, motels and bed & breakfast inns
- Industrial: Manufacturing, warehousing, and construction related business

A listing of the specific categories is included in **Table 2**.

Table 1. Historic and 2018-19 Average Demand Factors

	Monthly Factors				Annual Factors					
Land Use Category (2009 Study)	**1989 Study Values**	**2009 Study Values**	**2018-19 Avg Values**	**Units**	**1989 Study Values[4]**	**2009 Study Values[4]**	**2018-19 Demand (AFY)**	**2018-19 Total Units Analyzed (Total Units)[5]**	**2018-19 Unit Demand[5]**	**Units**
Single Family Residential (Aggregate) (1)	18.00	14.40	9.66	HCF/month/ dwelling unit	0.50	0.40	3,911.94	14,277	0.27	AFY/ dwelling unit
Single Family - Small Lot size < 7000 SF	11.43	9.49	6.66	HCF/month/ dwelling unit	0.32	0.26	962.49	5,084	0.19	AFY/ dwelling unit
Single Family - Medium Lot size 7000 SF to 1 acre	18.24 – 30.42	15.09	10.05	HCF/month/ dwelling unit	0.51 – 0.85	0.42	2,395.87	8,415	0.28	AFY/ dwelling unit
Single Family - Large Lot size >1 acre	51.57	34.45	25.01	HCF/month/ dwelling unit	1.44	0.95	553.58	778	0.71	AFY/ dwelling unit
Multi-Family Residential (Aggregate) (1)	7.33	5.72	5.60	HCF/month/ dwelling unit	0.20	0.16	2,880.67	19,007	0.15	AFY/ dwelling unit
Service Commercial	N/A	6.18	11.28	HCF/month/ 1000 SF	N/A	0.17	760.01	1,969	0.39	AFY/ 1000 SF
Retail Large: >20,000 SF	2.43	(Retain 1989 values)	2.04	HCF/month/ 1000 SF	0.068	(Retain 1989 values)	77.98	1,064	0.07	AFY/ 1000 SF
Retail Small: <20,000 SF	3.93	(Retain 1989 values)	9.28	HCF/month/ 1000 SF	0.11	(Retain 1989 values)	152.54	1,017	0.15	AFY/ 1000 SF
Office	3.57	2.06	3.04	HCF/month/ 1000 SF	0.10	0.06	178.22	2,128	0.08	AFY/ 1000 SF
Industrial	2.49 – 5.37	2.84	4.03	HCF/month/ 1000 SF	0.07 – 0.15	0.08	84.32	712	0.12	AFY/ 1000 SF
Institutional	N/A	6.11	26.52	HCF/month/ 1000 SF	N/A	0.17	N/A[6]	N/A[6]	(Retain 2009 values)[6]	AFY/ 1000 SF
Hotel/Motel	4.65	4.81	5.15	HCF/month/ room	0.13	0.13	397.98	2,996	0.13	AFY/ room
Hotel/Motel with Restaurant(3)	5.37	7.17	--- (3)	HCF/month/ room	0.15	0.20	--- (3)	--- (3)	--- (3)	AFY/room

Notes: All values include indoor and outdoor usage

1. The Land Use Database categorizes Single Family Residential (SFR) and Multi-Family Residential (MFR) differently than the City's General Plan Housing Element does. The Land Use Database has more MFR units and less SFR units than the Housing Element due to a difference in classification of single units on one parcel. The Housing Element categorizes based on the style of residence whereas the Land Use Database categorizes based on the density of residences on a parcel. The Land Use database considers all parcels with more than 1 unit as MFR, while the Housing Element categorizes the individual units on a parcel based on the building style of housing. For example, the Land Use Database would consider a duplex and 2 single units on one parcel as MFR, while the Housing Element considers a duplex as MFR units and the 2 single units on the parcel as 2 SFR units. Additionally, some units were excluded from analysis as described in Section 2.1 and therefore total residential dwelling units do not align with Housing Element values.
2. Source: (Economic & Planning Systems, August 30, 2019)
3. Hotel/ motel with and without restaurant is not differentiated in the 2018-19 customer consumption data, thus the hotel/motel land use category is an aggregate of hotel/ motels with and without restaurants.
4. Units for table values are as noted in the respective "Units" column, unless otherwise specified in the column header.
5. "Unit" in this instance refers to either dwelling unit, 1000 SF, or hotel room, as noted in the respective "Units" column.
6. The data set for Institutional customers largely did not include parcel square footage data, so the demand factor for the Institutional category could not be updated.

Table 2. Detailed Land uses and Demand Factor Categories

Land Use from Parcel Database	Water Demand Factor Category
C - Bank, Credit Union	Service Commercial
C - Bar or Drinking Place	Service Commercial
C - Car Dealer	Service Commercial
C - Car Service & Repair	Service Commercial
C - Car Wash	Service Commercial
C - Clubs (including gyms, health & fitness clubs)	Service Commercial
C - Commercial - Various	Service Commercial
C - Commercial w/ Institutional	Service Commercial
C - Commercial w/ Manufacture	Service Commercial
C - Fast-Food Restaurant	Service Commercial
C - Fast-Food Restaurant with Drive-Thru	Service Commercial
C - Food sales (not grocery/supermarket)	Service Commercial
C - Full Service Restaurant	Service Commercial
C - Gasoline Service	Service Commercial
C - Grocery Store, Supermarket	Service Commercial
C - Lodging	Hotel
C - Medical Related Uses	Service Commercial
C - Office	Office
C - Office (non-Institutional) - Business, Professional	Office
C - Retail - Consumer Goods & Services	Retail
C - Shopping Center	Retail
C - Theater (Live or Movie)	Retail
C - Veterinary Services	Service Commercial
C & I - Communication & Information (TV, Newspaper)	Service Commercial
Common Area	NA
I - Educational Services (day cares/schools)	Institutional
I - Memorial Services (funeral homes, cemeteries)	Institutional
I - Nursing Home/ Convalescent Hospital/ Rest Home	Institutional
I - Other Government (Military, DMV, Post Office)	Office
I - Other Institutional	Institutional
I - Public Administration	Office
I - Public Safety (Police and Fire Stations)	Institutional
I - Religious Institutions (Churches, etc.)	Office
I - Special Purpose Institutions (Museum, Zoo)	Institutional
M - Construction Related Businesses	Industrial
M - Manufacturing and Wholesale Trade	Industrial
M - Other Industrial or Manufacturing	Industrial
M - Warehousing and Storage	Industrial
Mobile Home Park	Multi-Family Residential
M-Residential with Commercial	Multi-Family Residential
MU - Commercial with Institutional	Service Commercial
MU - Commercial with Manufacturing	Service Commercial
MU - Commercial with Residential	Multi-Family Residential
MU - Residential with Other (non Commercial)	Multi-Family Residential
P - Parks & Open Space	NA
P - Recreational Facilities (non Commercial)	NA
R - Condo	Multi-Family Residential

Land Use from Parcel Database	Water Demand Factor Category
R - Multi	Multi-Family Residential
R - Multi-Family Residence	Multi-Family Residential
R - Nursing Home/ Convalescent Hospital/ Rest Home	Multi-Family Residential
R - Single	Single Family Residential
R - Single Family Residence	Single Family Residential
T - Parking Lot	NA
T - Parking Structure	NA
T - Transportation Facilities	NA
UT - Utilities	NA
V - Vacant (non Open-Space) or Vacant Building	NA

3. References

City of Santa Barbara. October 2009. *Water Demand Factor Update Report* . October 2009.

Economic & Planning Systems, Inc. August 30, 2019. *City of Santa Barbara Lower Cost Overnight Accommodations Study.* August 30, 2019.

Maddaus Water Management. December 2020. *City of Santa Barbara Water Conservation Strategic Plan.* December 2020.